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Muskmelon Cultivar Evaluation Trials

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MUSKMELON CULTIVAR EVALUATION TRIALS FOR 1974

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Muskmelon cultivars and hybrids were evaluated during the summer of 1974 at the OSU Horticultural Farm in Columbus and at the OARDC Crops Research Unit at Green Springs. Six hybrids were compared in replicated trials at Columbus. The same six hybrids and four additional entries were included in replicated trials at Green Springs. Twenty-four cultivars and experimental lines were evaluated in non-replicated, observation plots only at the Columbus location.

Cultural Information

Columbus Location:

Plant growing--Seeds were sown on May 10, 1974, and transplanted into 2-inch square Cell-Packs on May 16. Two plants were grown in each pot. Transplants were field set on May 29.

Field culture--1,000 lb. per acre of 12-12-12 was broadcast and plowed down on March 29. Four-foot wide, 1.5-mil black plastic mulch was laid on 6-foot centers before transplanting. Rows were 25 feet long and plants were spaced 30-inches apart in the rows. The replicated trial consisted of four replications. One-half pint of starter solution of 6 lb. per 100 gal. of 10-52-8 was added to each hill at transplanting. Dacthal at 8 lb. per acre was applied to the unmulched area between the rows on June 3 for weed control. Cultural operations during the growing season were according to recommended practices.

Harvest--Harvest started on Aug. 12 and continued until Sept. 12.

Rainfall Conditions--	June	-	6.9
	July	-	0.6
	Aug.	-	4.5
	Sept.	-	1.8

Green Springs Location:

Plant growing--Seeds were sown on May 9, 1974, into 2-1/4-inch square peat pots. Two plants were grown in each pot. Transplants were field set on May 24.

Field culture - 450 lb. per acre of 10-20-20 was applied broadcast and 200 lb. per acre 6-24-12 was drilled in the row before planting. Four-foot wide 1.5-mil black plastic mulch was laid on 6-foot centers immediately before transplanting. Rows were 50 feet long and plants were spaced 30 inches apart. The replicated trial consisted of three replications. One-half pint of a starter solution of 6 lb. per 100 gal. of 10-52-17 was added to each hill at transplanting. Vegiben 2E at 2 lb. per acre was applied between the rows of plastic to control weeds. Cultural operations during the growing season were according to recommended practice.

Harvest--Harvest started on Aug. 8 and continued until Sept. 9.

Rainfall conditions--	June - 3.4
	July - 0.5
	Aug. - 4.4
	Sept. - 0.6

Seed Sources

<u>Cultivar</u>	<u>Lot No.</u>	<u>Source</u>
Ambrosia	550-A1	W. Atlee Burpee Co., Philadelphia, Pa.
Burpee Hybrid	6137	W. Atlee Burpee Co., Philadelphia, Pa.
Canada Gem	199B	Stokes Seed, Inc., Buffalo, N.Y.
Classic	1517B-582	Letherman's, Inc., Canton, Ohio
Cum Laude	B-1	Otis S. Twilley Seed Co., Salisbury, Md.
Gold Star	562	Joseph Harris Co., Rochester, N.Y.
Iroquois	569-971	Joseph Harris Co., Rochester, N.Y.
Harvest Queen	565-909	Joseph Harris Co., Rochester, N.Y.
Delicious 51	5079	W. Atlee Burpee Co., Philadelphia, Pa.
Harper	563-957	Joseph Harris Co., Rochester, N.Y.
Saticoy	574-958	Joseph Harris Co., Rochester, N.Y.
Golden Perfection	C-5	Otis S. Twilley Seed Co., Salisbury, Md.
Star Headliner	B-7	Otis S. Twilley Seed Co., Salisbury, Md.
Crenshaw	5190	W. Atlee Burpee Co., Philadelphia, Pa.
Supermarket	576-987	Joseph Harris Co., Rochester, N.Y.
Queen of Colorado	T-9	Otis S. Twilley Seed Co., Salisbury, Md.
Chaca Hybrid	B-7	Otis S. Twilley Seed Co., Salisbury, Md.
Chaca #1	023-303	Peto Seed Co., Saticoy, Calif.
Oval Chaca	022-301	Peto Seed Co., Saticoy, Calif.
No. 45 JS	67208	Asgrow Seed Co., Orange, Conn.
XP 129	PC 71156	Asgrow Seed Co., Orange, Conn.
XP 750	87211	Asgrow Seed Co., Orange, Conn.
XP 77	56222	Asgrow Seed Co., Orange, Conn.
XP 142	56216	Asgrow Seed Co., Orange, Conn.
PSX 174	-	Peto Seed Co., Saticoy, Calif.
PSX 274	-	Peto Seed Co., Saticoy, Calif.
PSX 474	-	Peto Seed Co., Saticoy, Calif.
PSX 4273	-	Peto Seed Co., Saticoy, Calif.
PSX 4673	-	Peto Seed Co., Saticoy, Calif.
PSX 4973	-	Peto Seed Co., Saticoy, Calif.

Results and Discussion

Yield and fruit size results for the first 2 weeks of harvest and the total season's harvest from the replicated trials in Columbus and Green Springs are summarized in Tables 1 and 2. There are obvious differences between cultivars as indicated by the data. We should point-out that Ambrosia had good yields and fruit size; however, consumer acceptance may need to be developed for this non-ribbed type melon.

Results from the non-replicated observation trials are presented in Table 3. Several of these entries lack the distinct ribbing common among the muskmelon cultivars grown in the Eastern U.S. The Chaca hybrids (Charlenta's types of Europe) need particular attention given to harvest time, otherwise, severe cracking results.

The results for various quality characteristics for all the entries grown in Columbus are summarized in Table 4.

TABLE 1.--Relation of Cultivar to Yield, Fruit Quality, and Size of Muskmelons--Replicated Trial, Columbus.

Cultivar	First 2 Weeks of Harvest			Season Total Harvest		
	Marketable	%	Size	Marketable	%	Size
	cwt/A	Culls	lb.	cwt/A	Culls	lb.
Ambrosia	138.7	3.3	4.9	336.4	20.9	4.1
Burpee Hybrid	213.5	10.0	3.9	329.4	11.8	3.6
Canada Gem	170.3	8.6	3.9	363.4	10.3	3.8
Classic	167.1	13.7	3.9	313.1	13.6	3.6
Cum Laude	37.8	0.0	3.0	189.9	31.3	2.6
Gold Star	167.8	5.7	4.0	350.8	10.9	3.6
LSD .05	30.4	---	0.5	32.8	----	0.7

TABLE 2.--Relation of Cultivar to Yield, Fruit Quality, and Size of Muskmelons--Replicated Trial, Green Springs.

Cultivar	First 2 Weeks of Harvest			Season Total Harvest		
	Marketable	%	Size	Marketable	%	Size
	cwt/A	Culls	lb.	cwt/A	Culls	lb.
Ambrosia	85.3	6.2	5.4	441.3	7.9	4.8
Burpee Hybrid	76.7	3.6	4.3	403.7	9.4	3.7
Canada Gem	41.8	0.0	4.9	448.9	6.6	4.4
Classic	23.3	0.0	4.9	436.7	8.6	4.5
Cum Laude	6.5	14.0	2.9	207.8	23.4	3.4
Gold Star	71.7	2.4	4.6	380.6	9.3	4.1
Golden Perfection	10.2	25.5	2.0	221.7	42.3	3.7
Queen of Colorado	0.0	100.0	-	276.6	14.0	4.0
Chaca Hybrid	55.3	44.7	3.0	202.0	54.6	2.8
Supermarket	33.0	2.6	3.7	339.8	9.3	3.5
LSD .05	77.4	-	1.4	115.4	-	1.9

TABLE 3.--Relation of Cultivar to Yield, Fruit Quality, Size of Muskmelons--Nonreplicated Trial, Columbus.

Cultivar or Line	First 2 Weeks of Harvest			Season Total Harvest		
	Marketable	%	Size	Marketable	%	Size
	cwt/A	Culls	lb.	cwt/A	Culls	lb.
Crenshaw	108.2	42.9	9.3	291.7	57.1	8.4
Delicious 51	81.2	58.3	2.8	86.1	60.7	2.7
Golden Perfection	0.0	0.0	0.0	145.3	65.9	3.6
Harper	103.8	42.1	3.3	337.9	32.7	3.1
Harvest Queen	36.0	0.0	4.1	220.4	40.0	3.6
Iroquois	149.9	0.0	4.3	269.1	0.0	3.7
Queen of Colorado	13.9	0.0	4.8	217.5	23.1	3.8
Saticoy	125.9	0.0	2.9	276.1	8.6	3.0
Star Headliner	145.0	11.8	3.3	283.3	14.3	3.3
Supermarket	96.6	15.4	3.0	292.6	18.6	2.9
No. 45 JS	64.1	12.5	3.2	289.4	23.3	3.0
Chaca Hybrid	103.5	25.0	3.0	203.6	49.0	2.8
Chaca #1	128.2	41.9	2.5	159.5	42.9	2.5
Oval Chaca	54.8	25.0	3.2	216.0	37.8	2.7
XP 129	0.0	0.0	0.0	153.1	48.0	4.1
XP 750	0.0	0.0	0.0	236.1	50.0	4.3
XP 77	11.0	0.0	3.8	439.4	20.0	4.7
XP 142	202.1	0.0	4.1	258.4	12.0	4.0
PSX 174	217.8	11.8	5.0	288.0	19.2	4.7
PSX 274	167.9	35.0	4.5	177.8	50.0	4.4
PSX 474	125.3	56.5	4.3	188.8	59.5	4.3
PSX 4273	38.3	50.0	4.4	264.5	41.9	5.1
PSX 4673	113.4	16.0	1.9	246.8	28.6	1.9
PSX 4973	41.5	55.0	1.6	203.9	48.6	1.8

TABLE 4.--Quality Characteristics of Muskmelon Cultivars or Lines--
Columbus Trials.

Cultivar or Line	% Soluble Solids	Texture	Firmness	Flavor	Aroma	Color
Ambrosia	11.4	4	4	4	3	3
Burpee Hybrid	10.9	4	4	4	3	4
Canada Gem	12.1	4	4	4	3	4
Classic	11.7	3	4	4	4	5
Cum Laude	11.5	2	5	3	3	3
Gold Star	12.2	4	4	4	4	4
Crenshaw	13.5	3	3	3	3	2
Delicious 51	11.2	-	-	-	-	-
Golden Perfection	12.8	4	4	3	3	3
Harper	14.5	5	5	5	3	5
Harvest Queen	13.9	4	3	5	2	4
Iroquois	11.2	4	3	4	3	5
Queen of Colorado	14.2	3	5	2	3	5
Saticoy	14.8	4	5	4	3	5
Star Headliner	12.5	3	5	4	3	5
Supermarket	12.3	3	2	2	4	3
No. 45 JS	9.6	4	5	3	3	2
Chaca Hybrid	14.4	4	4	5	3	4
Chaca #1	13.7	4	3	4	3	3
Oval Chaca	14.5	3	3	4	3	3
XP 129	10.7	2	5	2	2	2
XP 750	11.0	-	-	-	-	-
XP 77	10.7	3	4	3	3	3
XP 142	11.4	4	4	4	3	2
PSX 174	9.4	1	4	1	2	1
PSX 274	9.8	-	-	-	-	-
PSX 474	6.7	1	4	1	2	1
PSX 4273	11.9	2	5	3	4	3
PSX 4673	11.6	4	5	4	3	4
PSX 4973	12.0	4	5	4	3	4

Subjective ratings on a scale of 1 to 5; 5-excellent, 1-poor.

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